AIRCRAFT DISPATCHER

UNIT 1 – AIRCRAFT FLIGHT PLANNING

LESSON D – POINT LOCATION DESCRIPTIONS

STUDENT WORKBOOK

LESSON OBJECTIVES

1. Identify two primary methods of describing a point location to a pilot.

2. Describe the difference between coordinates given in degrees/minutes/tenths and degrees/minutes/seconds.

3. Convert one type of coordinate to another.

NOTES

I. DESCRIBING LOCATIONS

A. Geographic Locations

Geographic locations can be used to describe point locations.

The pilot and aircraft dispatcher must be familiar with the area.

Example: 5 miles south of Mount St. Helens

B. Latitude and Longitude

1. World-wide method of finding a location

2. Loran or Global Positioning Satellite (GPS)

3. Published on all aeronautical charts

4. Written or Spoken

   a. Degrees, minutes, seconds

   b. Degrees, minutes, tenths or hundredths, or thousandths

   c. Degrees, tenths, hundredths, thousandths, or greater

5. Converting Coordinates

   a. Seconds to tenths:

      - Seconds ÷ 60 seconds = tenths
        - 15 ÷ 60 = .25
      - Tenths x 60 seconds = seconds
        - .25 x 60 = 15”

   b. Basic Conversions:

Seconds	Tenths
15	.25
30	.50
45	.75
60	1.00

COORDINATE CONVERSION EXERCISE

1. You have been given the following coordinates:

   Latitude: 43°33’.85”N
   Longitude: 116°13’.37”W

   Convert the coordinates from tenths to seconds:

   Latitude:

   Longitude:

2. You have been given the following coordinates:

   Latitude: 43°33’51”N

   Longitude: 116°13’22”W

   Convert the coordinates from seconds to tenths:

   Latitude:

   Longitude:

C. Township, Range, and Section (Legal)

Formally known as the Rectangular Land Description System

Planned in 1784 by the Continental Congress.

- "Public lands shall be divided by North and South lines and by other lines running East and West so as to form Townships 6 miles square (not 6 square miles, but a square of 6 miles on each side, with an area of 36 square miles)."

- "The Townships will be divided into 36 sections, and each will contain 640 acres (as nearly as possible)."

D. Universal Transverse Mercator (UTM)

The Universal Transverse Mercator is an international plane (rectangular) coordinate system developed by the U.S. Army. The UTM divides the world into 60 zones of 6 degrees longitude. Each zone extends 3 degrees east and west from its central meridian and are numbered consecutively west to east from the 180-degree meridian.

E. VHF Omni-directional Range (VOR)

The VOR or VORTAC station transmits a unique signal allowing aircraft to determine its bearing relative to the VOR station.

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